

REMARKS

Claims 1-9 are pending in this application. By this Amendment, claims 1, 5 and 9 are amended. Support for the amendment to claim 1 can be found in the specification as originally filed, for example, at paragraphs [0060]-[0063] and [0066]. Support for the amendment to claim 5 can be found in the specification as originally filed, for example, at paragraph [0082]. Support for the amendment to claim 9 can be found in the specification and in claims 5 and 9 as originally filed. Thus, no new matter is added by these amendments.

The courtesies extended to Applicants' representative by Examiner Pham at the interview held April 15, 2004, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

I. Rejections Under 35 U.S.C. §112

The Office Action rejects claim 9 under 35 U.S.C. §112, second paragraph as indefinite for failing particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully submit that claim 9 has been amended to remove the recitation of "further comprising a magnification error circuit or routine that determines a magnification error based on at least one input measurement." Applicants respectfully submit that this amendment merely corrects the form of claim 9 and clarifies the subject matter claimed therein. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

II. Double Patenting

The Office Action rejects claims 1-9 under the judicially created doctrine of double patenting as allegedly unpatentable over claims 7-10, 17-19, 23 and 24 of U.S. Patent No. 6,667,756 to Conrow et al., of which the above-captioned application is a divisional

application. Applicants respectfully submit that the attached terminal disclaimer overcomes the instant rejection. Accordingly, withdrawal of the rejection is respectfully requested.

III. Rejections Under 35 U.S.C. §103(a)

The Office Action rejects claims 1-9 under 35 U.S.C. §103(a) over U.S. Patent 4,990,965 to Kiya in view of U.S. Patent 6,219,085 to Hanna. Applicants respectfully traverse this rejection.

Independent claim 1 sets forth, in pertinent part, a "method of reducing show-through error in duplex printing comprising: determining at least one of sizes and locations of a first side image and a second side image of a duplex-printed image recording medium; determining an amount of residual magnification error based on the determined at least one of sizes and locations ... ; and determining margin shifts that reduce show-through error due to at least the residual magnification error ... ; wherein a first portion and a second portion of the determined margin shifts can be applied to the first side image and the second side image, respectively, during printing of image data to reduce show-through error." Claims 2-4 depend from claim 1.

Independent claim 5 sets forth, in pertinent part, a "control system for controlling a duplex printing device ... comprising: an input/output interface ... ; a residual magnification error determining circuit or routine ... ; a margin shift determining circuit or routine that determines margin shifts for a first side image and a second side image ... ; and a margin shift applying circuit or routine that applies the determined margin shifts during a subsequent duplex printing operation to reduce show-through error." Claims 6-9 depend from claim 5.

Kiya is cited as allegedly disclosing an image forming apparatus having a duplex unit for printing on both sides of a recording medium. See Kiya, Fig. 17. Kiya is further cited as allegedly disclosing a margin shift between images on the first and second sides of the recording medium due to the shrinkage of the recording medium, and delaying the transport

of the recording sheet when printing the second side image to produce align the end portions of the images on the first and second sides. See Kiya, col. 12, lines 36-42; Fig. 17. Kiya is further cited as allegedly disclosing that the apparatus includes an input/output interface that can be used to adjust the motor rotation speed and thus the speed of the recording medium through the apparatus. See Kiya, col. 12, lines 55-59.

In contrast to claims 1 and 5, however, Kiya does not disclose applying a first portion and a second portion of the determined margin shifts to the first and second side images during subsequent duplex printing to reduce show-through error. As discussed in the April 15 personal interview, Kiya discloses adjusting the margin shift for printing the second side image only. See Kiya, col. 12, lines 13-19; Fig. 17. However, Kiya does not disclose or suggest a method including or an apparatus for applying a first portion and a second portion of the determined margin shifts to the first and second side images to reduce the show through error, as disclosed in the specification and claimed in claims 1 and 5. See Specification, paragraphs [0060]-[0063], [0066] and [0082]. Rather, Kiya teaches determining a margin shift and applying it to only the second side image on a recording medium. See Kiya, col. 12, lines 13-30; Figs. 1 and 17.

At least because Kiya does not disclose or suggest applying a first portion and a second portion of the determined margin shifts to both the first and second side images to reduce the show through error, Kiya alone does not disclose or suggest the method of claim 1. Similarly, at least because Kiya does not disclose or suggest a margin shift determining circuit or routine that determines margin shifts for a first side image and a second side image and a margin shift applying circuit or routine that applies the determined margin shifts during a subsequent duplex printing operation to reduce show-through error, Kiya alone does not disclose or suggest the apparatus of claim 5. Thus, Kiya alone would

not have rendered claims 1 and 5, and their dependent claims 2-4 and 6-9 obvious. Hanna does not remedy the shortcomings of Kiya.

Hanna is cited as allegedly disclosing a method and a system for adjusting the margin of images on the first and second sides of a recording medium by printing a ruler on each side, measuring and comparing the position and length of the rulers to align the rulers. See Hanna, col. 5, lines 35-52, Fig. 6. The Office Action alleges that the length difference between rulers printed on the first and second sides of a duplex recording medium is the residual magnification error between the first and second side images. Hanna is further cited as allegedly disclosing adjusting the pixel clock frequency to eliminate offset. See Hanna, col. 7, lines 45-60.

However, like Kiya and in contrast to claims 1 and 5, Hanna does not disclose applying a first portion and a second portion of the determined margin shifts to both the first and second side images respectively during subsequent duplex printing to reduce show-through error. As discussed in the April 15 personal interview, Hanna also discloses adjusting the margin shift for printing the second side image only. See Hanna, col. 5, lines 53-67.

At least because neither Kiya nor Hanna discloses or suggests applying a first portion and a second portion of the determined margin shifts to both the first and second side images to reduce the show through error, Kiya and Hanna, individually or in combination, do not disclose or suggest the method of claim 1. Similarly, at least because neither Kiya nor Hanna discloses or suggests a margin shift determining circuit or routine that determines margin shifts for a first side image and a second side image and a margin shift applying circuit or routine that applies the determined margin shifts during a subsequent duplex printing operation to reduce show-through error, Kiya and Hanna, individually or in combination, do not disclose or suggest the apparatus of claim 5. Thus, Kiya and Hanna,

individually or in combination, would not have rendered claims 1 and 5, and their dependent claims 2-4 and 6-9 obvious.

Thus, it is respectfully submitted that claims 1-9 are patentable over Kiya in view of Hanna. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-9 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Terminal Disclaimer

Date: April 27, 2004

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